Basic Program Rationale

Good planning efforts begin with a modeling process that clarifies the rationale of the proposed program using a systematic and logical framework. This framework "forces" the planners to consider every program aspect to determine whether there is a logical and strong relationship between each aspect. In the long run, this process will help ensure smooth and effective execution of the plan, saving time and other resources.

One key element in this initial step is to make sure all relevant players, other agencies, key stakeholders and even other APHIS program managers, who may have a role in executing the proposed program, are involved in developing this program logic model. A joint planning effort can work out any differences in perspectives and/or approaches before program implementation begins, thus avoiding confusion and conflict and saving time when action is most critically needed.

The value of identifying and documenting the basic program rationale—the logic behind the actions—cannot be over emphasized. In the past, many APHIS program managers have not documented this program logic, relying primarily on their previous experiences in similar situations, their technical expertise and their intuition. For the most part, this has been a successful strategy. However, as program goals and strategies become less straightforward (as mentioned earlier) it is more critical than ever to "map" program logic to serve as a critical communications tool for the agency's stakeholders, USDA officials, and for those expected to carry out the program activities on the ground. Without such a "map" describing why a particular level of staffing or a particular type of work will lead to the desired outcome, those asked to "execute" the plan may not have an understanding of why they are involved in certain tasks. This may contribute to poor decision making. In addition, those being asked to finance the plan may not have a clear understanding of why a certain level of resources are required to accomplish the desired outcome, making it more difficult for them to be strong advocates.

Step 1

The first step in program logic modeling is to identify the program's INPUTS, ACTIVITIES, OUTPUTS and OUTCOMES.

Inputs: Include anything used to run the program, including people, time estimates, equipment or technologies, dollars, and even authorizing legislation, rules or regulations.

Activities: Actions and tasks performed to achieve the intended outcome.

Outputs: The tangible goods or services derived from the activities—what the customer receives.

Outcomes: The things that occur as a result of the outputs. These "things" may be more intangible or indirect the further out you "map" them. That is to say, there are almost always layers of outcomes (immediate, intermediate and ultimate) to consider.

Step 2

Next, it is critical for planners to identify external factors that could influence the program outcome. Generally these factors cannot be controlled by the program manager, but there may be some level of influence a program manager has on some of them. In any case, clearly listing these external factors enables managers to consider the wider array of consequences that could occur in real life and allow for contingency planning around various scenarios. Figure 2 represents a typical workflow diagram we suggest be used when mapping the program logic.

Logic Model Tutorial

One web source of information on this topic is included below: (see reference)
http://www.uwex.edu/ces/lmcourse/#

Figure 2

Problem or Issue Statement:

Program Goal:

Inputs	Activities	Outputs	Intermediate Outcomes	Ultimate Outcomes

As you map out the program logic, it may be helpful to consider several questions.

1. Have we accurately described what happens if we don't do the work? That is, what is the seriousness or urgency of the problem and what are the anticipated consequences of doing nothing? Summarize briefly in the Problem or Issue Statement and then describe in greater detail in the action plan.
2. Have we clearly identified and communicated how the actions/activities performed will actually contribute to the desired outcome?
3. Have we defined our rationale with facts, research findings, or empirical data?
4. Does the ultimate outcome, as listed in the current program logic model, still represent the most reasonable or appropriate goal for the program?
5. How will some of the external factors influence the way work gets done or the timeframe for accomplishing various goals?

Again, at first glance, program managers may argue this mapping is unnecessary because it's already in their heads—it's obvious and intuitive. This may be true in many cases, but not in all cases. Kessler and Kelley *(The Business of Government, 2000)* refer to program logic as the business logic model, and make the case that public sector programs are more similar than different from private sector managers in the business strategies they need to develop. Just as in a for-profit business, benefits to developing business or program logic modeling include:

- Clear delineation of what the program does daily, and the benefits derived from those activities
- Illustration of outputs, immediate outcomes and less obvious intermediate and long-term outcomes
- Identification of exogenous (uncontrollable) factors that can negatively impact program outcomes
- Identification of other public sector program with the same or very similar issues and focus
- Involvement of managers and staff in critical analysis of how programs operate and the cause-and-effect relationship they have with the external environment
- Identification of results and outcomes, and analysis of whether the existing processes/approaches can achieve the intended results
- Development of a focused, aggressive business plan for the program under scrutiny

APHIS Program Logic Model: Various Examples

Case 1: An Emergency Response to a Plant Pest – Emerald Ash Borer (EAB)

Problem Statement: The Emerald Ash Borer (EAB) threatens American and Canadian ash resources, posing potential damage in terms of billions of dollars, environmental damage, and long-term changes to the North American forest structure.

Program Goal: To protect American and Canadian ash resources by containing and eradicating EAB using the best scientific practices and tools.

Inputs	Activities	Outputs	Intermediate Outcomes	Ultimate Outcomes
Funding Equipment & Supplies: - vehicles, - contracted tree cutting equipment, - wood chippers, - cherry picker trucks Personnel - Entomologists - Office staff - Public affairs specialists - Cartographer Authorities - Plant Protection Act of 2000	Destruction of host material Surveillance for pest in all ash trees within quarantine & surrounding area Outreach to public, stakeholders, and affected industries on the pest, how it spreads, and how to ensure the public doesn't spread it	Infected and exposed trees destroyed Pest is destroyed Severity and location of pest outbreak is determined Better informed public	EAB is eradicated Pest can't spread to surrounding host material Regionalization of quarantine EAB spread prevented Future outbreaks of EAB are prevented	Eradicate EAB U.S. ash trees protected

External Factors:

1. Market Price of Ashwood: If the price is low, there is no incentive for the lumber industry to voluntarily remove the trees for lumber
2. Insufficient technology/science to determine the complete scope of the EAB outbreak
3. Lack of trust among cooperators—information being withheld from one another
4. Lack of public awareness despite outreach efforts
5. Inexperience of field personnel in handling EAB activities

Case 2: An Emergency Response to an Animal Disease -– Exotic Newcastle Disease (END)

Problem Statement: Exotic Newcastle disease (END) is a contagious and fatal viral disease affecting all species of birds. END is probably one of the most infectious diseases of poultry in the world. END is also so virulent that many birds die without showing any clinical signs. A death rate of almost 100 percent can occur in unvaccinated poultry flocks. Exotic Newcastle can infect and cause death even in vaccinated poultry.

Program Goal: To protect American poultry resources by controlling and eradicating Exotic Newcastle Disease (END) from the Western United States, by using the best scientific practices and tools.

Inputs	Activities	Outputs	Intermediate Outcomes	Ultimate Outcomes
Personnel Equipment Supplies	Depopulation- - depopulate the index case clean and disinfect the infected premises Surveillance - Conduct enhanced surveillance program for backyard flocks w/ in the neighborhood Indemnity Program - Offer indemnity payments to owners of infected flocks and other backyard flock owners who want to turn in sick birds Public Awareness Campaign - Educate public on disease, how it spreads, and good biosecurity habits	Infected birds are slaughtered Severity of actual outbreak determined Owners of infected premises are reimbursed for the fair market value of their birds Better informed public	Disease eradicated from index premise Disease can't spread to neighboring flocks from the index flock Infected State becomes regionalized Bird owners of suspected sick birds have them tested due to potential indemnity payments Reduced risk of future outbreaks of END	END is eradicated International trade is reopened

External Factors:

1. Identifying back yard flocks of birds (non-commercial) may be difficult.
2. Communicating with a diverse range of ethnic communities may make outreach and public awareness campaigns more complex.
3. Some communities in the midst of the END outbreak zones may be initially suspicious of government officials trying to encourage producers to implement biosecurity measures on their premises.

Case 3: A Program Logic Model for Wildlife Disease Monitoring & Surveillance – A New Line Item for FY 2005

Problem Statement: National biosecurity and bioterrorism concerns can not be adequately addressed unless a National Wildlife Disease Surveillance & Emergency Response system is established to supplement existing domestic animal health and wildlife health surveillance systems.

Program Goal: To develop and implement a National Wildlife Disease Surveillance & Emergency Response System to further safeguard American agriculture, human health and safety, and natural resources.

Inputs	Activities	Outputs	Intermediate Outcomes	Ultimate Outcomes
Dollars Equipment & Supplies - Field supplies for sample collections - Vehicles - Computers - GIS equipment Personnel - Wildlife Disease Biologists - GIS Specialists - Support Staff - IS disease surveillance liaison - Administrative Assistants - Laboratory technicians - Research Specialists - MIS Specialists - LPA Specialists Legal authority - The Animal Damage Control Act of 1931 - Homeland Security Presidential Directive 9	Emergency Response activities, including ICS/NIMS training Development of Emergency Response SOPs Disease surveillance training for wildlife disease biologists Disease surveillance training for foreign service officials Development of specific disease surveillance plans Active disease surveillance activities along the US. Mexico border Collection, preservation, and shipping of domestic wildlife samples	Adequate emergency mobilization Adequate emergency response (responders on site within 48 hours) Diagnostic test result information Geographic information on disease distribution in wildlife populations and domestic herds	Strengthened emergency response capabilities (better able to evaluate disease threats) Greater understanding of infectious diseases and zoonotic infections Reduced risk of bioterrorist threats	Safe agricultural trade Reduced losses to agricultural and natural resources Improved biosecurity for livestock, wildlife, and human health and safety

External Factors:

1. Significant changes in wildlife populations (i.e., increases or decreases in population size, movement of wildlife populations, etc.)
2. Significant changes in state wildlife management policies
3. Accelerated rates of human encroachment on wildlife habitat